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**From:** Rich, Jennifer@DTSC <Jennifer.Rich@dtsc.ca.gov>  
**Sent:** Wednesday, January 03, 2018 15:10  
**To:** Smits, Marc P CIV NAVFAC HQ, BRAC PMO  
**Cc:** Chammas, Guy A CIV; Aycok, Mary; Hannon, Patricia@Waterboards; Gettmann, Kimberly@DTSC; Warren, Scott@DTSC; Tasnif-abbasi, Maryam@DTSC; RWoodings [REDACTED]  
**Subject:** [Non-DoD Source] Final Technical Memorandum, Initial Basewide Assessment of Per- and Polyfluoroalkyl Substances in Groundwater, Former Marine Corps Air Station El Toro, Irvine, California  
**Attachments:** HERO'S Review - Final Tech Memo Initial Basewide Assessment PFAS in Groundwater Former El Toro.pdf

Marc,

The Department of Toxic Substances Control (DTSC) has reviewed the subject document dated November 2017. Although the document was sent to us as a Final Report, DTSC does have comments which are provided as an attachment to this email. Please let me know if you have any questions.

Thank you,

Jennifer Rich

Environmental Scientist

Department of Toxic Substances Control

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**From:** [Gettmann, Kimberly@DTSC](mailto:Gettmann.Kimberly@DTSC)  
**To:** [Rich, Jennifer@DTSC](mailto:Rich.Jennifer@DTSC)  
**Subject:** HERO"S Review - Final Tech Memo Initial Basewide Assessment PFAS in Groundwater Former El Toro  
**Date:** Thursday, December 21, 2017 11:07:37 AM

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Jennifer,

HERO reviewed the document, *Final Technical Memorandum, Initial Basewide Assessment of Per- and Polyfluoroalkyl Substances in Groundwater, Former Marine Corps Air Station El Toro, Irvine, California* dated November 2017 (Report) per the EnviorStor Request WR20047395. The per- and polyfluoroalkyl substances (PFAS) perfluorooctanoic acid (PFOA) and perflurooctane sulfate (PFOS) were detected at concentrations greater than the USEPA lifetime health advisory of 0.07 µg/l, individual and combined (PFOA+PFOS), at Installation Restoration Program (IRP) Sites 1, 18, and 24. The Report concluded that the "DON [Department of the Navy] is evaluating the need for potential additional assessment at these sites per the data quality objectives in the Final Program and Installation-Specific SAPs." Below are HERO's recommendations on the Report and its conclusions.

1. IRP Site 1. The conclusions of the Report for IRP Site 1 state that the PFOS and PFOS+PFOA impacts to groundwater "are limited to a small area, with no upgradient or downgradient concentrations of concern." Additionally, the concentration of PFOS to the west of monitoring well 01-MW209 has not been delineated. Groundwater flows to the west and monitoring well 01-MW209 had the highest concentration of PFOS. There are no other sampling points west of monitoring well 01-MW209.
2. IRP Site 18. The conclusions of the Report for IRP Site 18 are that the PFOA and PFOA+PFOS impacts to groundwater "are marginally greater than screening criteria and limited to the area around the farthest downgradient of three wells sampled." The PFOA and PFOA+PFOS impacts have not been delineated downgradient at the site nor the monitoring well 18MCAS07-3.
3. IRP Site 24. The conclusions of the Report for IRP Site 24 are that the PFOA, PFOS and PFOA+PFOS impacts to groundwater are primarily along the westernmost bound of MCAS El Toro. Additionally, the impacts to groundwater have not been delineated to the west or northwest of monitoring well 18MCS03.- and extraction well 24EX11.

HERO Internal Review: Eric Sciallo, Ph.D., Staff Toxicologist  
Human and Ecological Risk Office – Cal Center

Concur: Thomas F. Booze, Ph.D., Senior Toxicologist  
Human and Ecological Risk Office – Cal Center

Please let me know if you have any questions.

Regards, Kim

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